

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.**

Application Serial Number: 10/536,716  
Source: IFWP  
Date Processed by STIC: 6/14/06

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IFWP

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/536,716

DATE: 06/14/2006  
TIME: 10:36:15

Input Set : E:\8932003W.APP  
Output Set: N:\CRF4\06142006\J536716.raw

3 <110> APPLICANT: REGENTS OF THE UNIVERSITY OF MINNESOTA  
5 <120> TITLE OF INVENTION: HOMOLOGOUS RECOMBINATION IN MULTIPOTENT ADULT  
6 PROGENITOR CELLS  
8 <130> FILE REFERENCE: 890003-2003.WO  
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/536,716  
C--> 11 <141> CURRENT FILING DATE: 2005-05-25  
13 <150> PRIOR APPLICATION NUMBER: 60/429,631  
14 <151> PRIOR FILING DATE: 2002-11-27  
16 <150> PRIOR APPLICATION NUMBER: PCT/US02/04652  
17 <151> PRIOR FILING DATE: 2002-02-14  
19 <150> PRIOR APPLICATION NUMBER: PCT/US00/21387  
20 <151> PRIOR FILING DATE: 2000-08-04  
22 <160> NUMBER OF SEQ ID NOS: 5  
24 <170> SOFTWARE: PatentIn Ver. 3.2  
26 <210> SEQ ID NO: 1  
27 <211> LENGTH: 1674  
28 <212> TYPE: DNA  
29 <213> ORGANISM: Homo sapiens  
31 <400> SEQUENCE: 1  
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34 ttccaggagt tccttaaggaa gatgtatgaa gccttggaaag agatggattc taatacagtc 180  
35 attgaaaagat tccccacaat tggtaactg ttggccaaaag cttgttggaa tcctttatt 240  
36 ttagcatatg atgaaagcca aaaaattcta atatggtgc tatgttgc aattaacaaa 300  
37 gaaccacaga attctggaca atcaaaaactt aactcctgga tacagggtgt attatctcat 360  
38 atactttcag cactcagatt tgataaaagaa gttgcctttt tcactcaagg tcttgggtat 420  
39 gcacccatag attactatcc tggtttgctt aaaaatatgg ttttattcatt agcgtctgaa 480  
40 ctcagagaga atcatcttaa tgatgtttaac actcaaaggc gaatggctcc cgagcgagt 540  
41 gcgtccctgt cacgagtttgc tgcccactt attaccctga cagatgttgc cccctgggt 600  
42 gaggctctcc tcatctgtca tgacgtgaa cctcaggaaa tcctccagcc agaggcttt 660  
43 gaggctgtaa acgaggccat tttgctgaag aagatttctc tccccatgtc agctgttagtc 720  
44 tgcctctggc ttcggcacct tcccagcctt gaaaaagcaa tgctgcattt ttttggaaaag 780  
45 ctaatctcca gtgagagaaa ttgtctgaga aggatcgaat gctttataaa agattcatcg 840  
46 ctgcctcaag cagcctgcca ccctgccata ttccgggttg ttgatgagat gttcagggt 900  
47 gcaactctgg aaaccgtatgg ggccctggaa atcatagcca ctattcaggt gtttacgcag 960  
48 tgctttgttag aagctctggc gaaaaggc aaggcagctgc gttttgcact caagacctac 1020  
49 tttcccttaca cttctccatc tcttgcctg gtgctgcattt aagaccctca agatatccct 1080  
50 cggggacact ggctccagac actgaagcat atttctgaac tgctcagaga agcagttgaa 1140  
51 gaccagactc atgggtctgc cggaggtccc tttgagatgt gtttcctgtt cattcacttc 1200  
52 ggaggatggg ctgagatgtt ggcagagcaa ttactgtatgtt cggcagccga accccccacg 1260  
53 ggctcttggc cttctactac ggcccccgtg atggggaggca gagagcacag 1320  
54 actatggtcc aggtgaaggc cgtgctggc cacccctgg caatgtccag aagcagcagc 1380  
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56 cctgcacaac agctgatcg gcaccttctc ctcaacttcc tgctctggc tcctggagc 1500  
 57 cacacgatcg cctggatgt catcaccctg atggctcaca ctgctgagat aactcacgag 1560  
 58 atcattggct ttcttgacca gaccttgtac agatggaatc gtcttggcat tgaaagccct 1620  
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 63 <211> LENGTH: 557  
 64 <212> TYPE: PRT  
 65 <213> ORGANISM: Homo sapiens  
 67 <400> SEQUENCE: 2  
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 69 1 5 10 15  
 71 Gln Lys Leu Ser Val Trp Asp Gln Ala Ser Thr Leu Glu Thr Gln Gln  
 72 20 25 30  
 74 Asp Thr Cys Leu His Val Ala Gln Phe Gln Glu Phe Leu Arg Lys Met  
 75 35 40 45  
 77 Tyr Glu Ala Leu Lys Glu Met Asp Ser Asn Thr Val Ile Glu Arg Phe  
 78 50 55 60  
 80 Pro Thr Ile Gly Gln Leu Leu Ala Lys Ala Cys Trp Asn Pro Phe Ile  
 81 65 70 75 80  
 83 Leu Ala Tyr Asp Glu Ser Gln Lys Ile Leu Ile Trp Cys Leu Cys Cys  
 84 85 90 95  
 86 Leu Ile Asn Lys Glu Pro Gln Asn Ser Gly Gln Ser Lys Leu Asn Ser  
 87 100 105 110  
 89 Trp Ile Gln Gly Val Leu Ser His Ile Leu Ser Ala Leu Arg Phe Asp  
 90 115 120 125  
 92 Lys Glu Val Ala Leu Phe Thr Gln Gly Leu Gly Tyr Ala Pro Ile Asp  
 93 130 135 140  
 95 Tyr Tyr Pro Gly Leu Leu Lys Asn Met Val Leu Ser Leu Ala Ser Glu  
 96 145 150 155 160  
 98 Leu Arg Glu Asn His Leu Asn Gly Phe Asn Thr Gln Arg Arg Met Ala  
 99 165 170 175  
 101 Pro Glu Arg Val Ala Ser Leu Ser Arg Val Cys Val Pro Leu Ile Thr  
 102 180 185 190  
 104 Leu Thr Asp Val Asp Pro Leu Val Glu Ala Leu Leu Ile Cys His Gly  
 105 195 200 205  
 107 Arg Glu Pro Gln Glu Ile Leu Gln Pro Glu Phe Phe Glu Ala Val Asn  
 108 210 215 220  
 110 Glu Ala Ile Leu Leu Lys Lys Ile Ser Leu Pro Met Ser Ala Val Val  
 111 225 230 235 240  
 113 Cys Leu Trp Leu Arg His Leu Pro Ser Leu Glu Lys Ala Met Leu His  
 114 245 250 255  
 116 Leu Phe Glu Lys Leu Ile Ser Ser Glu Arg Asn Cys Leu Arg Arg Ile  
 117 260 265 270  
 119 Glu Cys Phe Ile Lys Asp Ser Ser Leu Pro Gln Ala Ala Cys His Pro  
 120 275 280 285  
 122 Ala Ile Phe Arg Val Val Asp Glu Met Phe Arg Cys Ala Leu Leu Glu  
 123 290 295 300  
 125 Thr Asp Gly Ala Leu Glu Ile Ile Ala Thr Ile Gln Val Phe Thr Gln  
 126 305 310 315 320

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128 Cys Phe Val Glu Ala Leu Glu Lys Ala Ser Lys Gln Leu Arg Phe Ala  
129 325 330 335  
131 Leu Lys Thr Tyr Phe Pro Tyr Thr Ser Pro Ser Leu Ala Met Val Leu  
132 340 345 350  
134 Leu Gln Asp Pro Gln Asp Ile Pro Arg Gly His Trp Leu Gln Thr Leu  
135 355 360 365  
137 Lys His Ile Ser Glu Leu Leu Arg Glu Ala Val Glu Asp Gln Thr His  
138 370 375 380  
140 Gly Ser Cys Gly Gly Pro Phe Glu Ser Trp Phe Leu Phe Ile His Phe  
141 385 390 395 400  
143 Gly Gly Trp Ala Glu Met Val Ala Glu Gln Leu Leu Met Ser Ala Ala  
144 405 410 415  
146 Glu Pro Pro Thr Ala Leu Leu Trp Leu Leu Ala Phe Tyr Tyr Gly Pro  
147 420 425 430  
149 Arg Asp Gly Arg Gln Arg Ala Gln Thr Met Val Gln Val Lys Ala Val  
150 435 440 445  
152 Leu Gly His Leu Leu Ala Met Ser Arg Ser Ser Ser Leu Ser Ala Gln  
153 450 455 460  
155 Asp Leu Gln Thr Val Ala Gly Gln Gly Thr Asp Thr Asp Leu Arg Ala  
156 465 470 475 480  
158 Pro Ala Gln Gln Leu Ile Arg His Leu Leu Leu Asn Phe Leu Leu Trp  
159 485 490 495  
161 Ala Pro Gly Gly His Thr Ile Ala Trp Asp Val Ile Thr Leu Met Ala  
162 500 505 510  
164 His Thr Ala Glu Ile Thr His Glu Ile Ile Gly Phe Leu Asp Gln Thr  
165 515 520 525  
167 Leu Tyr Arg Trp Asn Arg Leu Gly Ile Glu Ser Pro Arg Ser Glu Lys  
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171 545 550 555  
174 <210> SEQ ID NO: 3  
175 <211> LENGTH: 21  
176 <212> TYPE: DNA  
177 <213> ORGANISM: Artificial Sequence  
179 <220> FEATURE:  
180 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
181 primer  
183 <400> SEQUENCE: 3  
184 ctgccaacct gccatcttca g 21  
187 <210> SEQ ID NO: 4  
188 <211> LENGTH: 21  
189 <212> TYPE: DNA  
190 <213> ORGANISM: Artificial Sequence  
192 <220> FEATURE:  
193 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
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197 aagagcagct agtacttctg g 21  
200 <210> SEQ ID NO: 5

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201 <211> LENGTH: 20  
202 <212> TYPE: DNA  
203 <213> ORGANISM: Artificial Sequence  
205 <220> FEATURE:  
206 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
207 primer  
209 <400> SEQUENCE: 5  
210 aggaaaagtag gtcctgaggg

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**VERIFICATION SUMMARY**

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L:10 M:270 C: Current Application Number differs, Replaced Current Application Number

L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date